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Preface – Journal of Cereal Science Vol.57(2) March 2013

Peter Shewry, Rothamsted Research, UK

Simon Penson, Campden BRI, UK

Cereal-based food products are staple items in the diet of the population globally and challenges with current year's harvest have reinforced the importance of cereal science and technology to mankind. The poor maize harvest experienced in the United States of America has put pressure on commodity prices globally and has reignited the debate on the use of food crops for energy production. Added to this has been a poor wheat harvest in the United Kingdom, putting pressure on local millers to source wheat from other European countries and ultimately leading to higher cost of goods for consumers.

As the world's population increases and its climate becomes more unpredictable, the ability to provide sufficient nutrition to the peoples of the world will be increasingly challenged. Greater productivity and efficiency is therefore required throughout the supply chain, from maximizing productivity per unit land area under cultivation, to minimising post-harvest losses and increasing the utilisation of the crop wastes.

However, while insufficient food remains a concern for many of the world's population, there is a global increase in chronic diseases associated with the over-consumption of foods, particularly highly refined foods rich in fat and sugars, combined with an increasingly sedentary life style. Cereal products have the potential to combat this increase, with benefits in increased quality of life for consumers and reduced health care costs for governments.

There is also an implicit assumption that the food we market is safe to consume. Changes in climate are likely to increase the pathogen pressure on cereal crops, with a particular concern being the potential for increased levels of fungal growth on crops, and of mycotoxin-producing fungi in particular. This is a concern for the entire supply chain, impacting on the flexibility of sourcing and hence cost of raw materials.

This issue of the Journal of Cereal Science includes a series of papers based on presentations at the Eurocereals Conference held at Campden BRI, UK, in December 2011. The Conference brought together around 100 European researchers, processors and product developers in order to provide a forum for discussion of current challenges and opportunities for the cereal sector.